

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V RENEWAL (DRAFT PERMIT) NO. V-05-060

SAFETY-KLEEN SYSTEMS, INC.

SMITHFIELD, KY

APRIL 5, 2006

RALPH GOSNEY, P.E., REVIEWER

SOURCE I.D. #: 021-103-00005

SOURCE A.I. #: 1854

ACTIVITY I.D. #: APE20040001

SOURCE DESCRIPTION:

The Safety Kleen Systems, Inc. New Castle Recycle Center is a solvent and organic chemical recycling plant designed to receive, store and process spent organic solvent from Safety Kleen service centers and from commercial and industrial generators. In addition, the facility blends solvents with little or no recyclable value, along with distillation bottoms and other high heat capacity materials into a supplemental fuel. The facility uses several primary types of treatment including: distillation, evaporation, mixing, blending and filtering.

Generally, the materials handled at the facility can be separated into four categories: recyclable chlorinated solvents, recyclable flammable solvents, supplemental fuels, and solid fuels. Recyclable solvents are received in bulk and container form and pumped in storage tanks prior to processing.

Solvents received in drums will be normally unloaded at Truck Station No.6 or Truck Station No.2 and ultimately pumped into the respective tank farms prior to solvent recovery or fuel blending. The incoming drums are staged in container storage areas 2A and 2B prior to processing.

The New Castle Recycle Center utilizes two separate pieces of equipment for the processing of materials shipped to the facility in containers. Historically, materials shipped in containers have been more difficult to manage than those that arrive at the facility in bulk tanker trucks. The containers often contain a large amount of solidified material, debris and sludges. Approximately half of all the material that is processed arrives at the facility in containers. The facility operates two pieces of equipment to manage these containerized materials. The Automatic Drum Decanting System (ADDS) is utilized to empty the contents of drums that contain liquids and semi-solids. The shredding system (shredder) is utilized to manage those materials that contain solid material.

Typically drums containing primarily liquids and semi-solid materials are processed through the ADDS. In the ADDS system, each drum passes across a loading system into an airlock where the atmosphere is nitrogen purged. The drum is then sent to a shear chamber to cut off the bottom of the drum. The contents fall into the fluid recovery system for further handling. The sheared drums are then compressed. The recovered fluid is then pumped to the storage tanks.

The shredder system manages liquid and semi-solid materials. Drums are loaded onto a conveyor that transports the containers to the drum elevator. The drums are lifted to the infeed hopper, through an air lock, and into the nitrogen atmosphere in the processing portion of the system. After entering the process equipment, the drums are processed through a primary and then a secondary shredder. The shredders shred the drums and separate the container from its contents. Once shredded, the materials can be routed to 5 gallon pails, lugger boxes, or the hydrapulper unit for further processing.

Automatic Drum Decanting System (ADDS) Process Description

After completing the laboratory receipt analysis, each container is dispositioned as to how it will be managed, i.e., recoverable solvent, fuel blending, etc. A determination is also made as to which piece of process equipment will be used to process the container. The ADDS is utilized to process those materials that are in a liquid or semi-solid matrix. By changing valve configurations, material may be pumped from the ADDS system to a distillation process feed tank, a fuel blending tank, or any other permitted storage tank.

The ADDS system is a completely enclosed automated drum processing system that is monitored and controlled by a computer system. Since all container processing is conducted within a totally enclosed airtight system, potential exposure of personnel and the environment are minimized. The entire system is operated by two operators, one to monitor the control system and the other to load containers onto the conveyor track.

The ADDS system is operated by loading drums of material onto a conveyor roller track. The drums then enter the process, one at a time, through a nitrogen purged airlock system. As a drum enters the airlock, the exterior door closes and the oxygen level is measured by the computer system. The oxygen level must be below 5% in order for the control system to allow the process to continue. Keeping the oxygen percentage below 5% ensures that while processing flammable materials, a fire cannot occur. If the oxygen level within the ADDS system is not below 5%, a valve is opened and nitrogen flows into the airlock chamber until the oxygen level is satisfactory. Once the oxygen level is below 5%, the interior airlock door opens which allows the drum to enter the process equipment. The interior airlock door closes and the oxygen level is measured in the process chamber. If the oxygen level in this area is not below 5%, it also is purged with nitrogen. When the oxygen level is satisfactory, the control system allows the process to continue. The drum is processed by shearing off the bottom of the container. The contents of the container then flow into a mixing vessel where the contents are blended with other container. From there, the material is pumped to the appropriate tank. After the drum has been emptied by gravity, a hydraulic cylinder then crushes the container to remove any residues that may remain. These materials flow into the same vessel with the liquids. The resulting crushed drum and drum bottom are then shredded by an internal metal shredder. The shredded metal is then washed and passed through a magnetic separator. The magnetic separator removes any nonferrous debris that may be present. The scrap metal is then sold to various steel smelters where it is melted and reused.

Shredding System Process Description

The shredding system typically is utilized to manage those materials that contain solid material. This system may be utilized for materials dispositioned several different ways. Drums containing both liquid and solid material may be shredded, conveyed into a hydrapulper (mixing vessel), blended into fuel, and pumped to a tank for offsite shipment. The shredding system is also utilized to shred drums consisting entirely of solid material. The shredded solid material may then be loaded in roll-off boxes for shipment offsite for incineration or energy recovery at a cement kiln. For shredded solid material that contains absorbed liquids, it

may be further processed in a squeezer press to remove the liquids. The solid materials from the squeezer press are then shipped offsite for incineration or energy recovery. The liquid material is then shipped offsite for incineration or energy recovery.

The shredder system is a completely automated and totally enclosed unit purged with nitrogen to ensure that the oxygen level inside the system remains below 5%. The lowered oxygen level ensures that a fire does not occur within the system.

The system is operated similar to the ADDS system in that containers are loaded onto a roller conveyor where they pass through an airlock system into the process equipment. The oxygen level in the airlock and process chamber must be below 5% before the process is allowed to continue. After the control system verifies that the oxygen level is satisfactory, the drum is allowed to be processed through the shredder. The shredded material is then managed as previously described. Prior to exiting the shredding system, ferrous metal is removed utilizing a magnetic separator. The ferrous metal is then washed utilizing the shredding system hydropulper. The washed metal is then shipped offsite to various steel smelters where it is recycled to reuse.

Squeezer System

The squeezer system is utilized to process solid materials from the shredder system that contain absorbed liquids. The squeezer system processes shredded material into three streams; dry solid material, liquid and scrap metal. The dry solid material is shipped to a cement kiln for energy recovery or to an incinerator. The liquid material is blended into fuel and shipped to a cement kiln for energy recovery or to an incinerator. The scrap metal is washed utilizing a cleaning solvent and sold to various steel smelters for reuse.

The squeezer equipment consists of an enclosed nitrogen purge system. The system is operated by feeding material via a screw conveyor into the squeezer unit. The unit functions by applying hydraulic pressure to squeeze the material in a chamber surrounded by a steel screen. The liquid material passes through the screen while the solid material is discharged into a magnetic separator where ferrous metal is separated. The ferrous metal is collected for cleaning prior to shipment to a smelter for reuse. The remaining solid material is shipped offsite to a cement kiln for energy recovery or to an incinerator.

Tank Storage

There are 64 above ground tanks at the New Castle Recycle Center, 45 of which are permitted for the storage of hazardous waste. There are no underground storage tanks. The total storage capacity is 913,300 gallons. The tank storage capacity permitted to store hazardous waste is 620,500 gallons. Tanks at the facility are utilized to store a variety of materials which include:

Blend and mix tanks, boiler fuel storage, metal wash solvent storage, wastewater storage, waste solvent storage, groundwater collection, and finished product storage.

Secondary containment systems are designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water. All secondary containment systems are constructed of reinforced concrete.

All tanks are equipped with an ultrasonic level indicator and alarm system. Prior to transferring any material

into a tank, the available volume is determined. The liquid level alarm setting is assigned at 85% of tank capacity. Upon the sounding of a high alarm, the material handler manually shuts down any pump(s) feeding the tank.

Tanker Truck Loading and Unloading

Tanker trucks coming into the facility are emptied via hose connection to the various storage tanks. Tanker trucks that are leaving the facility are bottom loaded at truck station # 4.

COMMENTS:

The potential to emit (as defined in 401 KAR 52:001, Section 1 (56)) of any single HAP is equal to or greater than ten (10) tons per year and the combination of HAPs is equal to or greater than twenty-five (25) tons per year. Therefore, the source is a major source and is subject to the provisions of 401 KAR 52:020.

This permit is the renewed issuance of the source's plant-wide Title V operating permit.

- 1) Emission Units: One (1) 8.7 MMBtu natural gas fired Cleaver Brooks indirect heat exchanger, model 800-200, identified as EP # 01 (B02), and one (1) 16.7 MMBtu natural gas fired Cleaver Brooks indirect heat exchanger, 400 HP 150 lb steam boiler model CB 655 400, identified as 18 (B01).

- a) Potential to Emit Calculations

AP-42, Chapter 1.4, Tables 1.4-1, -2 and -3 were used to determine the natural gas combustion emissions from the emission units # 01 and 18. AP-42, Chapter 1.3, Tables 1.3-1, -2 and -3 were used to determine the #2 fuel combustion emissions from the emission units # 01 and 18.

- b) Applicable Regulations

401 KAR 59:010, New indirect heat exchangers

40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers

401 KAR 63:002, Section 2(5) - *40 C.F.R. Part 63 National Emission Standards for Hazardous Air Pollutants, Subpart DDDDD, incorporated by reference*

- i. The requirements of 40 CFR 63, Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, are not included in the permit for the natural gas fired boiler, identified as EP# 01. This unit is considered as an existing small gaseous fuel unit, as defined by 40 CFR 63.7575 (i.e., heat input rating is less than or equal to 10 million Btu per hour). Pursuant to 40 CFR 63.7506(c), there are no 40 CFR 63, Subpart DDDDD or 40 CFR 63, Subpart A requirements applicable to the small gaseous fuel subcategory.

The natural gas fired boiler, identified as EP # 18, is considered as an existing large gaseous fuel unit, as defined by 40 CFR 63.7575 (i.e., heat input rating is greater than or equal to 10 million Btu per hour). Pursuant to 40 CFR 63.7056 (b), the existing large gaseous fuel unit is subject to initial notification requirement

which was submitted by the permittee to the Division on December 4, 2004, before the compliance date of February 9, 2005. This is the only applicable component of this rule, and it has been satisfied by the permittee.

c) Non-Applicable Regulations

40 CFR Part 64, Compliance Assurance Monitoring

- i. The requirements of 40 CFR Part 64, Compliance Assurance Monitoring, apply to a pollutant-specific emissions unit (PSEU), as defined in 40 CFR 64.1, at a major source that is required to obtain a Part 70 or 71 permit if the PSEU meets the following criteria:
 - A) the unit is subject to an emission limitation or standard for an applicable regulated air pollutant,
 - B) the unit uses a control device as defined in 40 CFR 64.1 to comply with that emission limitation or standard, and
 - C) the unit has a potential to emit (PTE) before controls equal to or greater than 100 percent of the amount (tons per year) of the pollutant required for a source to be classified as a Part 70 major source.

Each emission point listed above as a pollutant-specific emissions unit (PSEU) has uncontrolled PTE at less than 100 percent of the applicable major Part 70 threshold for VOC and HAPs. Therefore, pursuant to 40 CFR 64.2 (a), the requirements of this rule do not apply to the emission points listed above.

d) Control Device: None

- 2) Emission Units: Distillation Column, Reboilers, Heat Exchangers and associated pipeline equipment, identified as EP # 03** (VP1,P1), Automatic Drum Decant System (ADDS)/Shredder , identified as EP #21 (MP02), Drum Shredder, N₂ purge, Shaker Screen, Hydrapulper, identified as EP #23 (MP01, MP03), and Solids Separator (Screw Press, Squeezer System), identified as EP #24.

**** Note:** Existing Emission Point # 03 is not currently operating and the Permittee has requested that the emission unit be maintained in the Title V permit. This unit is subject to the requirements of 40 CFR 63, Subpart DD, including the requirement that emissions from the distillation column be vented to the thermal oxidizer. During a plant visit in September 2005, KDAQ observed that EP # 3 was not connected to the thermal oxidizer. Therefore, consistent with Subpart DD, the permittee shall at no time operate EP #3 until a closed vent system is installed to exhaust process emissions to the thermal oxidizer. Prior to the installation of the closed vent system, the permittee must notify and obtain approval from the Division.

a) Potential to Emit Calculations

The potential emissions are calculated using vapor-liquid equilibrium (VLE) equations. Since the VOC and HAP emissions from these units are vented via closed vent system to a thermal oxidizer, operating at 1600 °F and with an average residence time of 0.85 seconds, a destruction efficiency of 95 % was assumed. The methodology and control efficiency used to calculate potential emissions is consistent with that approved by DAQ during initial Title V permit review.

b) Applicable Regulations

40 CFR 63, Subpart DD: National Emission Standards for Hazardous Air Pollutant Emissions from Off-Site Waste and Recovery Operations.

401 KAR 63:002, Sections 2 and 3(1)(x) - *40 CFR Part 63.680 to 63.698 (Subpart DD) National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, incorporated by reference*

401 KAR 63:020, Potentially hazardous matter or toxic substances.

i. The emission units, identified as 03, 21, 23 and 24, are subject to the National Emission Standards for Hazardous Air Pollutants, 401 KAR 63:002, Section 3 (1) (x) (40 CFR 63, Subpart DD). The detailed requirements of this rule are incorporated into the permit. Following is a summary of the requirements:

- A) The provisions of 40 CFR 63 Subpart A - General Provisions, which are incorporated as 401 KAR 63:002 Section 3 (a), apply to the facilities described in this section except when otherwise specified in 40 CFR 63 Subpart DD.
- B) The permittee shall route the vent stream from EP # 03, 21, 23 and 24 through a closed-vent system to a control device.
- C) The permittee shall use a closed-vent system that is designed to operate with no detectable organic emissions.
- D) The permittee shall use a thermal oxidizer that must maintain the conditions in the thermal oxidizer combustion chamber at a residence time of 0.5 seconds or longer and at a temperature of 760°C or higher.

c) Non-Applicable Regulations

40 CFR Part 64, Compliance Assurance Monitoring

40 CFR 63, Subpart QQ- National Emission Standards for Surface Impoundments

40 CFR 63, Subpart RR- National Emission Standards for Individual Drain Systems

40 CFR 63, Subpart VV- National Emission Standards for Oil-Water Separators and Organic Water Separators

i. The requirements of 40 CFR Part 64, "Compliance Assurance Monitoring" are not applicable to the emission units, identified as 03, 21, 23 and 24. Pursuant to 40 CFR 64.2(b)(1)(i), the requirement of this rule do not apply to a source subject to emission limits or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 (NSPS) or 112 (NESHAP) of the Act. The emission

units are subject to section 112 (40 CFR 63, Subpart DD) for HAP emissions, and they do not meet the rule applicability criteria for other emitted pollutants. Therefore, these units are not subject to this rule.

- ii. Pursuant to 40 CFR 63.940, the requirements of 40 CFR 63, Subpart QQ are applicable to the control of air emissions from surface impoundments for which another subpart of 40 CFR 60, 61 and 63 references the use of this subpart for such air emission control. The source does not have surface impoundments. Therefore, the requirements of Subpart QQ do not apply to the source, and the requirements of §63.687 *Standards: Surface impoundments* of Subpart DD do not apply.
- iii. Pursuant to 40 CFR 63.960, the requirements of 40 CFR 63, Subpart RR are applicable to the control of air emissions from individual drain systems for which another subpart of 40 CFR 60, 61 and 63 references the use of this subpart for such air emission control. The only reference to Subpart RR in 40 CFR 63 Subpart DD, which is an applicable rule (see discussion above), is at §63.689 *Standards: Transfer systems*. While this source is subject to the requirements of §63.689 for its transfer systems (i.e., pipelines from process areas to storage tanks), the source does not have individual drain systems as such is defined. Therefore, the requirements of Subpart RR are not applicable to the source.
- iv. Pursuant to 40 CFR 63.1040, the requirements of 40 CFR 63, Subpart VV are applicable to the control of air emissions from oil-water separators and organic-water separators for which another subpart of 40 CFR 60, 61 and 63 references the use of this subpart for such air emission control. The source does not have oil-water separators or organic-water separators. Therefore, the requirements of Subpart VV do not apply to the source, and the requirements of §63.686 *Standards: Oil-water and organic-water separators* of Subpart DD do not apply.

d) Control Device: Thermal Oxidizer, Closed Vent Systems and Seals, and Leak Detection and Repair (LDAR) Program

- 3) Emission Units: Ten (10) 18,500 gallon fixed roof waste organic solvent storage tanks identified as EP # 05 (NF1-NF10), fourteen (14) fixed roof waste organic solvent storage tanks identified as EP # 06 (S1-S14), seven (7) 7,500 gallon fixed roof waste organic solvent storage tanks identified as EP # 07 (D1-D7), eleven (11) fixed roof storage tanks identified as EP # 08 (R1-R11), two (2) 20,000 gallon** and three (3) 15,000 gallon fixed roof waste organic solvent storage tanks identified as EP # 11 (V1-V5), and two (2) 15,000 gallon homogenizing process vessels identified as EP # 20 (HPV-1, HPV-2).

** **Note**: Tanks that are subject to 40 CFR 60, Subpart Kb. The tanks, identified as EP # 9 and 20, were listed in the original TV as being subject to Subpart Kb are no longer subject to Kb due to the change in the rule as of Oct. 15, 2003 and the rule exempted storage tanks with capacities less than 75 cubic meters from the Kb requirements.

a) Potential to Emit Calculations

The potential emissions are calculated using U.S. EPA TANKS4.0 program, material composition information provided by the permittee, and vapor-liquid equilibrium (VLE) equations. The methodology used to calculate potential emissions is consistent with that approved by DAQ during initial Title V permit review.

b) Applicable Regulations

40 CFR 63, Subpart DD: National Emission Standards for Hazardous Air Pollutant Emissions from Off-Site Waste and Recovery Operations.

401 KAR 63:002, Sections 2 and 3(1)(x) - *40 CFR Part 63.680 to 63.698 (Subpart DD) National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, incorporated by reference*

40 CFR 63, Subpart OO - National Emission Standards for Tanks - Level 1

401 KAR 63:002, Sections 2 and 3(1)(gg) - *40 CFR Part 63.900 to 63.908 (Subpart OO) National Emission Standards for Tanks - Level 1, incorporated by reference*

40 CFR 60, Subpart Kb - Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction or Modification Commenced After July 23, 1984

401 KAR 60:002, Sections 2 and 3(1)(q) - *40 CFR Part 60.110b to 117b (Subpart Kb) Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction or Modification Commenced After July 23, 1984, incorporated by reference*

401 KAR 63:020, Potentially hazardous matter or toxic substances.

- i. The emission units, identified as 05, 06, 07, 08, 09, 11 and 20, are subject to the National Emission Standards for Hazardous Air Pollutants, 401 KAR 63:002, Section 3 (1) (gg) (40 CFR 63, Subpart OO). 40 CFR 63, Subpart OO requirements are sub-referenced by 40 CFR Part 63.685 (c)(2)(i) (40 CFR 63, Subpart DD). The detailed requirements of this rule are incorporated into the permit. Following is a summary of the requirements:

A) The tanks shall be equipped with a fixed roof designed to meet the following specifications:

- 1) The fixed roof and its closure devices shall be designed to form a continuous barrier over the entire surface area of the liquid in the tank. The fixed roof may be a separate cover installed on the tank (e.g., a removable cover mounted on an open-top tank) or may be an integral part of the tank structural design (e.g., a horizontal cylindrical tank equipped with a hatch).
- 2) The fixed roof shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between roof section joints or between the interface of the roof edge and the tank wall.
- 3) Each opening in the fixed roof, and any manifold system associated with the fixed roof, shall be either:
 - a) equipped with a closure device designed to operate such that when the

closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device; or

- b) connected by a closed-vent system that is vented to a control device. The control device shall remove or destroy organics in the vent stream, and shall be operating whenever regulated material is managed in the tank.
- 4) The fixed roof and its closure devices shall be made of suitable materials that will minimize exposure of the regulated-material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the fixed roof and closure devices shall include: organic vapor permeability, the effects of any contact with the liquid or its vapors managed in the tank; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the tank on which the fixed roof is installed.

B) Whenever a regulated-material is in the tank, the fixed roof shall be installed with each closure device secured in the closed position.

c) Non-Applicable Regulations

40 CFR Part 64, Compliance Assurance Monitoring

- i. The requirements of 40 CFR Part 64, “Compliance Assurance Monitoring” are not applicable to the emission units, identified as 05, 06, 07, 08, 09, 11 and 20. Pursuant to 40 CFR 64.2(b)(1)(i), the requirement of this rule do not apply to a source subject to emission limits or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 (NSPS) or 112 (NESHAP) of the Act. The emission units are subject to section 112 (40 CFR 63, Subpart OO, as sub referenced by 40 CFR 63, Subpart DD) for HAP emissions, and they do not meet the rule applicability criteria for other emitted pollutants. Therefore, these units are not subject to this rule.

d) Control Device: Fixed Roof Tanks with Closure Device

- 4) Emission Units: Pipeline equipment with twenty two (22) pumps, three hundred and forty six (346) flanges, one thousand twenty six (1026) valves and three hundred and fourteen (314) open ended lines. The pipeline equipment is identified as EP # 22.

a) Potential to Emit Calculations

The potential emissions are calculated using SOCMI (synthetic organic chemical manufacturing industry) emission factors, permittee-specified equipment component count information, and vapor-liquid equilibrium (VLE) equations. The methodology used to calculate potential emissions is consistent with that approved by DAQ during initial title V review.

b) Applicable Regulations

40 CFR 63, Subpart DD: National Emission Standards for Hazardous Air Pollutant Emissions from Off-Site Waste and Recovery Operations.

401 KAR 63:002, Sections 2 and 3(1)(x) - *40 CFR Part 63.680 to 63.698 (Subpart DD) National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, incorporated by reference*

40 CFR 61, Subpart V- National Emission Standards for Equipment Leaks (Fugitive Emission Sources)

401 KAR 57:002, Sections 2 and 3(1)(r) - *40 CFR Part 61.240 to 61.247 (Subpart V) National Emission Standards for Equipment Leaks, incorporated by reference*

401 KAR 63:020, Potentially hazardous matter or toxic substances.

- i. The transfer systems at the source are subject to the National Emission Standards for Hazardous Air Pollutants, 401 KAR 63:002, Section 3 (1) (x) (40 CFR 63, Subpart DD). The detailed requirements of this rule are incorporated into the permit. Following is a summary of the requirements:

- A) The transfer system is designed and operated such that an internal pressure in the vapor headspace in the enclosure is maintained at a level less than atmospheric pressure when the control device is operating, and
- B) The cover and its closure devices shall be designed to form a continuous barrier over the entire surface area of the off-site material as it is conveyed by the transfer system except for the openings at the inlet and outlet to the transfer system through which the off-site material passes. The inlet and outlet openings used for passage of the off-site material through the transfer system shall be the minimum size required for practical operation of the transfer system.
- C) The cover shall be installed in a manner such that there are no visible cracks, holes, gaps, or other open spaces between cover section joints or between the interface of the cover edge and its mounting.
- D) Except for the inlet and outlet openings to the transfer system through which the off-site material passes, each opening in the cover shall be equipped with a closure device designed to operate such that when the closure device is secured in the closed position there are no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the opening and the closure device.
- E) The cover and its closure devices shall be made of suitable materials that will minimize exposure of the off-site material to the atmosphere, to the extent practical, and will maintain the integrity of the equipment throughout its intended service life. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability; the effects of any contact with the material or its vapors conveyed in the transfer system; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for the transfer system on which the cover is installed.
- F) Whenever an off-site material is in the transfer system, the cover shall be

installed with each closure device secured in the closed position.

- ii. The emission unit, identified as EP # 22, is subject to the National Emission Standards for Hazardous Air Pollutants, 401 KAR 57:002, Section 3 (1) (r) (40 CFR 61, Subpart V). 40 CFR 61, Subpart V requirements are sub-referenced by 40 CFR 63, Subpart DD. The detailed requirements of this rule are incorporated into the permit. Following is a summary of the requirements:

Standards: Pumps

- A) Each pump shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.
- B) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- C) If there are indications of liquids dripping from the pump seal, a leak is detected.
- D) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in §61.242–10.
- E) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

Standards: Open-ended valves or lines.

- F) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.
- G) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring process fluid flow through the open-ended valve or line.
- H) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the process fluid end is closed before the second valve is closed.

Standards: Valves.

- I) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.
- J) Any valve for which a leak is not detected for 2 successive months may be monitored the first month of every quarter, beginning with the next quarter, until a leak is detected.
- K) If a leak is detected, the valve shall be monitored monthly until a leak is not detected for 2 successive months.
- L) When a leak is detected, it shall be repaired as soon as practicable, but no later than 15 calendar days after the leak is detected, except as provided in §61.242–10.
- M) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.
- N) First attempts at repair include, but are not limited to, the following best practices where practicable:
 - 1) Tightening of bonnet bolts;
 - 2) Replacement of bonnet bolts;

- 3) Tightening of packing gland nuts; and
- 4) Injection of lubricant into lubricated packing.

Standards: Delay of Repair.

- O) Delay of repair of equipment for which leaks have been detected will be allowed if repair within 15 days is technically infeasible without a process unit shutdown. Repair of this equipment shall occur before the end of the next process unit shutdown.
- P) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the process and that does not remain in VHAP service.
- Q) Delay of repair for valves will be allowed if:
 - 1) The permittee demonstrates that emissions of purged material resulting from immediate repair are greater than the fugitive emissions likely to result from delay of repair, and
 - 2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with §61.242-11.
- R) Delay of repair for pumps will be allowed if:
 - 1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system, and
 - 2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.
- S) Delay of repair beyond a process unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the process unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next process unit shutdown will not be allowed unless the next process unit shutdown occurs sooner than 6 months after the first process unit shutdown.

c) Non-Applicable Regulations

40 CFR Part 64, Compliance Assurance Monitoring

40 CFR 61.242-5, Standards: Sampling connecting systems

- i. The requirements of 40 CFR Part 64, "Compliance Assurance Monitoring" are not applicable to the emission unit, identified as EP #22. Pursuant to 40 CFR 64.2(b)(1)(i), the requirement of this rule do not apply to a source subject to emission limits or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 (NSPS) or 112 (NESHAP) of the Act. The emission units are subject to section 112 (40 CFR 61, Subpart V, as sub referenced by 40 CFR 63, Subpart DD) for HAP emissions, and they do not meet the rule applicability criteria for other emitted pollutants. Therefore, these units are not subject to this rule.

- ii. The requirements of 40 CFR 61.242-5 are applicable to sampling connection system. Sampling connection system means an assembly of equipment within a process unit used during periods of representative operation to take samples of the process fluid. The source uses an equipment to take non-routine grab samples, which does not meet the definition of sampling connection system. Therefore, the requirements of 40 CFR 61.242-5 do not apply to the source.

d) Control Device: Leak Detection and Repair (LDAR)

- 5) Emission Units: Containers- Larger than 0.46m³ (121.5 gallons), including: ten (10) roll off boxes, fourteen (14) 40 yd³ (8,079 gallon) dump trailers, and forty-eight (48) 1.5 yd³ (303 gallon) portable hoppers. These are collectively identified as EP #25.

a) Potential to Emit Calculations

The potential emissions are calculated using vapor-liquid equilibrium (VLE) equations. The methodology used to calculate potential emissions is consistent with that approved by DAQ during initial title V review.

b) Applicable Regulations

40 CFR 63, Subpart DD: National Emission Standards for Hazardous Air Pollutant Emissions from Off-Site Waste and Recovery Operations

401 KAR 63:002, Sections 2 and 3(1)(x) - *40 CFR Part 63.680 to 63.698 (Subpart DD) National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, incorporated by reference*

40 CFR 63, Subpart PP- National Emission Standards for Containers - Level 1 Controls

401 KAR 63:002, Sections 2 and 3(1)(hh) - *40 C.F.R. Part 63.920 to 63.929 (Subpart PP) National Emission Standards for Containers, incorporated by reference*

401 KAR 63:020, Potentially hazardous matter or toxic substances.

- i. The emission unit, identified as EP # 25, is subject to the National Emission Standards for Hazardous Air Pollutants, 401 KAR 63:002, Section 3 (1) (hh) (40 CFR 63, Subpart PP). 40 CFR 63, Subpart PP requirements are sub-referenced by 40 CFR 63, Subpart DD. The detailed requirements of this rule are incorporated into the permit. Following is a summary of the requirements:

A) A container used to meet the requirements of 40 CFR 63, Subpart PP shall be equipped with covers and closure devices, as applicable to the container, that are composed of suitable materials to minimize exposure of the regulated-material to the atmosphere and to maintain the equipment integrity for as long as it is in service. Factors to be considered when selecting the materials for and designing the cover and closure devices shall include: organic vapor permeability, the effects of contact with the material or its vapor managed in the container; the effects of outdoor exposure to wind, moisture, and sunlight; and the operating practices used for container on which the cover is installed.

B) Whenever a regulated-material is in a container using Container Level 1 controls, the permittee shall install all covers and closure devices for the container, and

secure and maintain each closure device in the closed position.

c) Non-Applicable Regulations

40 CFR Part 64, Compliance Assurance Monitoring

- i. The requirements of 40 CFR Part 64, "Compliance Assurance Monitoring" are not applicable to the emission unit, identified as EP # 25. Pursuant to 40 CFR 64.2(b)(1)(i), the requirement of this rule do not apply to a source subject to emission limits or standards proposed by the Administrator after November 15, 1990 pursuant to section 111 (NSPS) or 112 (NESHAP) of the Act. The emission units are subject to section 112 (40 CFR 63, Subpart PP, Sub referenced by 40 CFR 63, Subpart DD) for HAP emissions, and they do not meet the rule applicability criteria for other emitted pollutants. Therefore, these units are not subject to this rule.

d) Control Device: Covers and Closure Devices as Applicable to the Containers

6) Insignificant Activities

a) Applicable Regulations

- i. Boiler Fuel Tank 550 Gallons [No applicable regulations]
- ii. Ground Water Air Stripper [No applicable regulations*]
- iii. Onsite Vehicle Traffic [401 KAR 63:010]
- iv. Twelve (12) 19,000 gallon fixed roof organic solvents storage tanks identified as EP # 09 (A1-A12) [No applicable regulations]
- v. Bottom loading of recovered solvent into tanker trucks [No applicable regulations]

*Non-Applicable Regulations

The requirements of *National Emission Standards for Hazardous Air Pollutants for Site Remediation* (40 CFR 63.7880, Subpart GGGGG) are not included in the permit for the groundwater remediation system (air stripper). Pursuant to 40 CFR 63.7881(b)(3), site remediation is not subject to the requirements of Subpart GGGGG for those remedial actions performed under a Resource Conservation and Recovery Act (RCRA) corrective action conducted at a treatment, storage and disposal facility required by a permit issued by the US EPA or State program authorized by the EPA under RCRA section 3006. Safety-Kleen has specified during this review that the remedial activity (groundwater stripper) is permitted under RCRA by the USEPA and, as such, this rule does not apply.

b) Control Device: None

- 7) No changes have been made at the source during the prior five (5) year period i.e. since the initial Title V permit was issued on September 15, 1999.

SOURCE STATUS:

- (a) This existing source is not a major stationary source for PSD review because this type of operation is not one of the twenty-eight (28) listed source categories under 401 KAR 51:017 and the potential to emit a regulated pollutant is less than 250 tons per year.
- (b) Henry County is designated as attainment for the 8-hour ozone standard and VOC and NO_x, as regulated ozone precursor pollutants, are emitted at a rate less than 250 tons per year. No other criteria pollutant is emitted at a rate of 250 tons per year or more. Therefore, the existing source is not a major stationary source under prevention of significant deterioration (PSD), 401 KAR 51:017.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.